

WHAT IS CLAIMED IS:

1. A method for recording/managing audio level information, comprising:
partitioning an audio file into a first information area, an audio data area and a second information area; and
recording an audio level information in said second information area of an audio file, said audio level information indicating an output level of audio data to be reproduced.
2. The method of claim 1, comprising recording identification information in said first information area, said identification information indicating whether said audio level information has been recorded in said second information area.
3. The method of claim 1, wherein said audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file.
4. The method of claim 1, wherein said audio level information is a peak level or an average level of said audio file.
5. The method of claim 1, wherein the first information area is a header information area and the second information area is a tag information area.

6. A method, comprising:
receiving an audio file;
checking audio level information recorded in the received audio file; and
adjusting an output level of audio data to be reproduced of said received audio file, on the basis of the checked audio level information.

7. The method of claim 6, wherein said audio level information is recorded in tag information of said received audio file.

8. The method of claim 7, wherein said checking comprises:
checking identification information from header information of said received audio file, said identification information indicating whether said audio level information has been recorded in said tag information of said received audio file; and
checking said audio level information recorded in said tag information of said received audio file when said checked identification information indicates said audio level information was recorded.

9. The method of claim 8, comprising:
separating the audio file into the header information, audio data information and the tag information; and
storing the audio level information in the tag information and the identification information in the header information.

10. The method of claim 7, wherein said adjusting comprises:

comparing said checked audio level information with a predetermined reference level;

adjusting a gain of said audio data to be reproduced in accordance with the comparison result and an audio volume level set by a user; and

amplifying and outputting said audio data to be reproduced, at the adjusted gain.

11. The method of claim 10, wherein said adjusting a gain comprises increasing the gain of an audio amplifier when said checked audio level information is lower than said predetermined reference level, and reducing the gain when said checked audio level information is higher than said predetermined reference level.

12. The method of claim 10, wherein said adjusting a gain comprises:

calculating a ratio between said predetermined reference level, a current audio file, and a next audio file; and

modifying the gain according to the ratio, and wherein said predetermined reference level is an average audio level of audio files requested to be played.

13. The method of claim 6, comprising searching a recording medium for the received audio file that was requested to be played, said recording medium storing a

plurality of audio files, wherein said received audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file, and wherein said recording medium is any one of a memory, optical disc and hard disk included in any one of a portable terminal, portable computer and personal computer having a digital audio playback function.

14. An article including a machine-readable storage medium containing instructions for adjusting an output level of audio data, said instructions, when executed in a digital audio system, causing the system to:

search a recording medium for an audio file requested to be played, said recording medium storing a plurality of audio files;

check audio level information recorded in the searched audio file; and

adjust an output level of audio data to be reproduced of said searched audio file responsive to the checked audio level information.

15. The article of claim 14, wherein said searched audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file, and wherein said recording medium is any one of a memory, optical disc and hard disk included in any one of a portable terminal, portable computer and personal computer having a digital audio playback function.

16. The article of claim 14, wherein said audio level information is recorded in tag information of said searched audio file.

17. The article of claim 16, wherein the storage medium contains instructions for causing the system to:

check identification information from header information of said searched audio file, said identification information indicating whether said audio level information has been recorded in said tag information of said searched audio file; and

optionally check said audio level information recorded in said tag information of said searched audio file on the basis of the checked identification information.

18. The article of claim 16, wherein the storage medium contains instructions for causing the system to:

compare said checked audio level information with a predetermined reference level;

adjust a gain of an audio amplifier in accordance with the comparison result;
and

amplify and output said audio data to be reproduced, at the adjusted gain.

19. The article of claim 17, wherein said storage medium contains instructions causing the system to:

partition the audio file into the header information, an audio data area and the tag information; and

record the audio level information in the tag information and the identification information in the header information.

20. A digital audio system, comprising:

recording means for storing a plurality of audio files;

conversion means for converting an audio file read from said recording means into audio data to be reproduced;

control means for searching said recording means for an audio file requested by a user to be played, checking audio level information recorded in the searched audio file and adjusting an output level of audio data to be reproduced of said searched audio file according to the checked audio level information and a user set audio volume level; and

amplifier means for amplifying the converted audio data according to the adjusted output level and outputting the amplified audio data.

21. The system of claim 20, wherein the digital audio system is any one of a portable terminal, a portable computer, and a personal computer having a playback function for said audio files, and wherein said searched audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file.

22. The system of claim 20, comprising:

interfacing means for interfacing to a personal computer or contents provider server in order to download said audio files.

23. The system of claim 20, wherein said audio level information is recorded in tag information of said searched audio file, and wherein said searched audio file includes header information, said header information containing identification information indicative of whether said audio level information has been recorded in said tag information of said searched audio file.

24. The system of claim 23, wherein said control means is adapted to first check said identification information and selectively check said audio level information recorded in said tag information of said searched audio file on the basis of the checked identification information.

25. The system of claim 20, wherein said control means is adapted to compare said checked audio level information with a predetermined reference level and adjust the gain of said audio amplifier in accordance with the comparison result and a system audio volume level to adjust the output level of said audio data to be reproduced.

26. The system of claim 25, wherein said predetermined reference level is an average audio level of audio files requested to be played.

27. An apparatus for adjusting an output level of audio data in a digital audio system, said digital audio system including a recording medium configured to store a plurality of audio files including at least two audio file types, and a converter configured to convert an audio file read from said recording medium into audio data to be reproduced, said apparatus comprising:

a controller configured to search said recording medium for an audio file selected for playback, check audio level information recorded in the selected audio file and adjust an output level of audio data to be reproduced of said selected audio file responsive to the checked audio level information; and

an audio amplifier configured to amplify the converted audio data and output the amplified audio data.

28. The apparatus of claim 27, comprising a speaker to broadcast the amplified audio data, wherein said selected audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file.

29. The apparatus of claim 27, wherein said audio level information is recorded in tag information of said searched audio file.

30. The apparatus of claim 29, wherein said searched audio file includes header information, said header information containing identification information indicative of

whether said audio level information has been recorded in said tag information of said searched audio file, and wherein said controller is adapted to first check said identification information and check said audio level information recorded in said tag information of said searched audio file when the checked identification information indicates the audio level information was recorded.

31. The apparatus of claim 27, wherein said controller is adapted to compare said checked audio level information with a predetermined reference level and adjust the gain of said audio amplifier in accordance with the comparison result and a user set audio volume level.

32. The apparatus of claim 31, wherein said predetermined reference level is an average audio level of audio files requested to be played, and wherein the audio level of the audio files is a peak level or an average level of the audio data to be reproduced for each audio file.